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PTO/SB/21 (05-03)

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# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	10/656,910
		Filing Date	September 4, 2003
		First Named Inventor	Jeffery A. Whiteford
		Group Art Unit	1755
		Examiner Name	Unassigned
Total Number of Pages in This Submission	6	Attorney Docket Number	40-002710US

## ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Additional Enclosure(s) (please identify below):  receipt acknowledgment postcard
<b>Authorization to Charge Deposit Account</b> Please charge Deposit Account No. 50-0893 for any additional fees associated with this paper or during the pendency of this application, including any extensions of time for consideration of the documents enclosed.		
Remarks		

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Angela P. Horne, Ph.D., Reg. No. 41,079, Quine Intellectual Property Law Group, P.C.
Signature	
Date	February 13, 2004

## CERTIFICATE OF MAILING

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QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.

By

Deborah Berwick

Deborah Berwick

Attorney Docket No. 40-002710US  
Client Ref. No. 01-002710US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Jeffery A. Whiteford, et al.

Application No.: 10/656,910

Filed: September 4, 2003

For: ORGANIC SPECIES THAT  
FACILITATE CHARGE TRANSFER  
TO OR FROM NANOSTRUCTURES

Examiner: Unassigned

Art Unit: 1755

INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR § 1.97 and  
§ 1.98

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action on the merits per 37 CFR 1.97(b)(3). However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

*Angela P. Horne, Ph.D.*

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INFORMATION DISCLOSURE  
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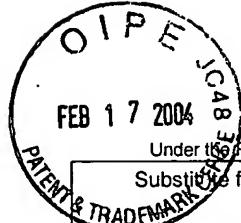
		Complete if Known	
		Application Number	10/656,910
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		Examiner Name	Unassigned
		Attorney Docket Number	40-002710US
		Date Submitted	February 13, 2004

## U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
1	5,504,323			Heeger et al.	04-02-1996	
2	5,505,928			Alivisatos et al.	04-09-1996	
3	5,690,807			Clark, Jr. et al.	11-25-1997	
4	5,728,487			Grätzel et al.	03-17-1998	
5	5,751,018			Alivisatos et al.	05-12-1998	
6	5,897,945			Lieber et al.	04-27-1999	
7	5,990,479			Weiss et al.	11-23-1999	
8	5,997,832			Lieber et al.	12-07-1999	
9	6,036,774			Lieber et al.	03-14-2000	
10	6,048,616			Gallagher et al.	04-11-2000	
11	6,136,156			EI-Shall et al.	10-24-2000	
12	6,207,229	B1		Bawendi et al.	03-27-2001	
13	6,225,198	B1		Alivisatos et al.	05-01-2001	
14	6,239,355	B1		Salafsky	05-29-2001	
15	6,245,988	B1		Grätzel et al.	06-12-2001	
16	6,251,303	B1		Bawendi et al.	06-26-2001	
17	6,306,736	B1		Alivisatos et al.	10-23-2001	
18	6,319,426	B1		Bawendi et al.	11-20-2001	
19	6,322,901	B1		Bawendi et al.	11-27-2001	
20	6,399,224	B1		Li	06-04-2002	
21	6,413,489	B1		Ying et al.	07-02-2002	
22	6,512,172	B1		Salafsky et al.	01-28-2003	

Examiner Signature		Date Considered	
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Substitute for form 1449A-B/PTO		Complete if Known			
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>		Application Number	10/656,910		
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		Attorney Docket Number	40-002710US		
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
	23	WO	02/080280	A1	The Regents of the University of California	10-10-2002		
	24	WO	02/17362	A2	President and Fellows of Harvard College	02-28-2002		

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	25	BJÖRK ET AL. (2002) "One-dimensional steeplechase for electrons realized." <u>Nano Letters</u> 2(2):86-89.	
	26	CAO ET AL. (2000) "Growth and properties of semiconductor core/shell nanocrystals with InAs cores" <u>Journal of the American Chemistry Society</u> 122:9692-9702.	
	27	CUI ET AL. (2000) "Doping and electrical transport in silicon nanowires" <u>Journal of Physical Chemistry B</u> 104(22):5213-5216.	
	28	CUI ET AL. (2001) "Diameter-controlled synthesis of single-crystal silicon nanowires." <u>Applied Physics Letters</u> 78(15): 2214-2216.	
	29	DABBOUSI ET AL. (1997) "(CdSe)ZnS core-shell quantum dots: Synthesis and characterization of a size series of highly luminescent nanocrystallites." <u>Journal of Physical Chemistry B</u> 101:9463-9475.	
	30	DUAN ET AL. (2000) "General synthesis of compound semiconductor nanowires." <u>Advanced Materials</u> 12(4):298-302.	
	31	GREENHAM ET AL. (1996) "Charge separation and transport in conjugated-polymer/semiconductor-nanocrystal composites studied by photoluminescence quenching and photoconductivity." <u>Physical Review B-Condens Matter</u> 54(24): 17628-17637.	
	32	GREENHAM ET AL. (1997) "Charge separation and transport in conjugated polymer/cadmium selenide nanocrystal composites studied by photoluminescence quenching and photoconductivity." <u>Synthetic Metals</u> 84:545-546.	
	33	GUDIKSEN ET AL. (2000) "Diameter-selective synthesis of semiconductor nanowires." <u>Journal of the American Chemistry Society</u> 122:8801-8802.	
	34	GUDIKSEN ET AL. (2001) "Synthetic control of the diameter and length of single crystal semiconductor nanowires." <u>Journal of Physical Chemistry B</u> 105:4062-4064.	

Examiner Signature	Date Considered
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35 ✓	GUDIKSEN ET AL. (2002) "Growth of nanowire superlattice structures for nanoscale photonics and electronics." <u>Nature</u> 415:617-620.
36 ✓	HUYNH ET AL. (1999) "CdSe Nanocrystals Rod/Poly (3-hexylthiophene) Composite Photovoltaic Devices." <u>Advanced Materials</u> 11(11): 923-927.
37 ✓	HUYNH ET AL. (2002) "Hybrid Nanorod-Polymer Solar Cells." <u>Science</u> 295:2425-2427
38 ✓	JUN ET AL. (2001) "Controlled synthesis of multi-armed CdS nanorod architectures using monosurfactant system." <u>Journal of the American Chemistry Society</u> 123:5150-5151.
39 ✓	KRAFT ET AL. (1998) "Electroluminescent Conjugated Polymers -- Seeing Polymers in a New Light" <u>Angew Chem. Int. Ed.</u> 37:402-428.
40 ✓	LIU ET AL. (2001) "Sol-Gel Synthesis of Free-Standing Ferroelectric Lead Zirconate Titanate Nanoparticles" <u>Journal of the American Chemistry Society</u> 123:4344-4345.
41 ✓	MANNA ET AL. (2000) "Synthesis of Soluble and Processable Rod-, Arrow-, Teardrop-, and Tetrapod-Shaped CdSe Nanocrystals." <u>Journal of the American Chemistry Society</u> 122:12700-12706.
42 ✓	MANNA ET AL. (2002) "Epitaxial growth and photochemical annealing of graded CdS/ZnS shells on colloidal CdSe nanorods" <u>Journal of the American Chemistry Society</u> 124:7136-7145.
43 ✓	MILLIRON ET AL. (2003) "Electroactive surfactant designed to mediate electron transfer between CdSe nanocrystals and organic semiconductors" <u>Adv. Mater.</u> 15(1):58-61.
44 ✓	MORALES ET AL. (1998) "A laser ablation method for the synthesis of crystalline semiconductor nanowires." <u>Science</u> 279:208-211
45 ✓	PENG ET AL. (1997) "Epitaxial growth of highly luminescent CdSe/CdS core/shell nanocrystals with photostability and electronic accessibility." <u>Journal of the American Chemistry Society</u> 119:7019-7029.
46 ✓	PENG ET AL. (2000) "Shape control of CdSe nanocrystals." <u>Nature</u> 404:59-61.
47 ✓	PUNTES ET AL. (2001) "Colloidal nanocrystal shape and size control: The case of cobalt." <u>Science</u> 291:2115-2117.
48 ✓	URBAN ET AL. (2002) "Synthesis of single-crystalline perovskite nanorods composed of barium titanate and strontium titanate." <u>Journal of the American Chemistry Society</u> 124(7): 1186-1187
49 ✓	WU ET AL. (2002) "Block-by-block growth of single-crystalline Si/SiGe superlattice nanowires." <u>Nano Letters</u> 2(2):83-86.
50 ✓	YUN ET AL. (2002) "Ferroelectric Properties of Individual Barium Titanate Nanowires Investigated by Scanned Probe Microscopy." <u>Nano Letters</u> 2(5): 447-450.

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